



Glenn Research Center



View of the Future — Combustion at Supercritical Conditions

- ◆ The benefit of improved efficiency is realized often by *high-pressure and/or supercritical* operation of combustors.
 - Unfortunately, the amounts of pollutants, such as oxides of nitrogen and soot, are increased as well with increasing pressure.
 - Much of our detailed knowledge of combustion is at low pressure, and extrapolation of behavior to high pressure needs to be done.
- ◆ Accompanying increased pressure operation is an increase in buoyant flow effects.
 - Microgravity experiments will enable an isolation of the effects of the buoyancy on flame structure, flammability, and flame speeds.